Fig. 1

(SEQ ID NO: 1)

```
 ~9   cggtgaagaatggtgtattttttaaatttcatgtcaataaccaatgtcccggtgctgaag
               M   V   Y   F   L   N   F   M   S   I   T   N   V   P   V   L   K
  52   cgcgcgcgactctacatggcgacgaatcgccggctggtggttgttcttgtggtgctgctg
          R   A   R   L   Y   M   A   T   N   R   R   L   V   V   V   L   V   V   L   L
 112   tactgggtggtccagaacgtttggacgtggagccctgggacgcgcgatttggcccaagtg
          Y   W   V   V   Q   N   V   W   T   W   S   P   G   T   R   D   L   A   Q   V
 172   gacgcgaagatcgaggccgagctaaactcgaatctacatacttttggagcgcatttgcgc
          D   A   K   I   E   A   E   L   N   S   N   L   H   T   F   G   A   H   L   R
 232   cacttaaaccggcttccggcagagtcggccaccctgcgtgaaaaactcaccttctatttc
          H   L   N   R   L   P   A   E   S   A   T   L   R   E   K   L   T   F   Y   F
 282   ccatattatcctgaaaagcccgtgccgaaccagatctggcagacatggaaggtcgatctc
          P   Y   Y   P   E   K   P   V   P   N   Q   I   W   Q   T   W   K   V   D   L
 352   gaagacgacaacttccccaagcagtacagacggtttcagaagacgtgggtcgagaaaaat
          E   D   D   N   F   P   K   Q   Y   R   R   F   Q   K   T   W   V   E   K   N
 412   ccagactacgtgtaccacctgattccggactctgtgattgaggactttgtggcgagtttg
          P   D   Y   V   Y   H   L   I   P   D   S   V   I   E   D   F   V   A   S   L
 472   tacgcgaacgtgccggaggtggtcagagcgtaccagctgcttccgaaaaaatatcatgaag
          Y   A   N   V   P   E   V   V   R   A   Y   Q   L   L   P   K   N   I   M   K
 532   gcggattttttccggtatttggtgatctacgcgcgcggaggcacctactcagacatggac
          A   D   F   F   R   Y   L   V   I   Y   A   R   G   G   T   Y   S   D   M   D
 592   acggtgtgtttaaagccgatcaaggactgggccacgtttgatcgcgacctgatccacgct
          T   V   C   L   K   P   I   K   D   W   A   T   F   D   R   D   L   I   H   A
 652   gccgacaataaggccgatctctcccagatagatccagaagcaagaaccacgcctgtgggg
          A   D   N   K   A   D   L   S   Q   I   D   P   E   A   R   T   T   P   V   G
 712   ctggtgattggcattgaggccgacccggacaggcccgactggcacgagtggttctcgcgc
          L   V   I   G   I   E   A   D   P   D   R   P   D   W   H   E   W   F   S   R
 772   agactgcagttctgccagtggacgatccaggcgaagccgggacacccgctgctgcgcgag
          R   L   Q   F   C   Q   W   T   I   Q   A   K   P   G   H   P   L   L   R   E
 832   ctgatcatccggatcgtggaggagacgttccgcaaacagcacatgggcgttttgaaaaga
          L   I   I   R   I   V   E   E   T   F   R   K   Q   H   M   G   V   L   K   R
 892   gtggaaggcaaggactcgggcgcagatatcatgcagtggacaggaccggggatatttaca
          V   E   G   K   D   S   G   A   D   I   M   Q   W   T   G   P   G   I   F   T
 952   gacactctgtttgattatctgaacaatgtggcgagcgacggcaagttgggcgacgggtac
          D   T   L   F   D   Y   L   N   N   V   A   S   D   G   K   L   G   D   G   Y
1012   ggcgtgggggtcgttgtattggcgcaagcacggcaaatataagctgaaaaagacagaaatt
          G   V   G   S   L   Y   W   R   K   H   G   K   Y   K   L   K   K   T   E   I
1072   aacaagaataacgagccattgcattctgaggaccagcttatcaactggaggtcgctgacc
          N   K   N   N   E   P   L   H   S   E   D   Q   L   I   N   W   R   S   L   T
1132   aacatggacaagccaaagatcatgggggacgtaatggtgttaccaatcacgagctttagt
          N   M   D   K   P   K   I   M   G   D   V   M   V   L   P   I   T   S   F   S
1192   ccgaacgtggggcacatgggctcaaagagcagctcagataggctggcatttgtggagcat
          P   N   V   G   H   M   G   S   K   S   S   S   D   R   L   A   F   V   E   H
1252   ttattttctggcagctggaagccaaaaaacaaataggaaaaataaataattagctgcatt
          L   F   S   G   S   W   K   P   K   N   K   -
1312   ttagataattctcatgagcaggcacagaacg
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Fig. 2

SEQ ID NO.:

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Hp0ch2p   1  --------------------------MVYFLNFMSITNVPVLKRAR YMATNRRLVVVLV  YWV     2
Hp0chlp   1  ------------------------------MSKASPYRGINSTSSTSPKFKLS F GLL          15
Ca0chlp   1  -------------------------MLQLREPQMVHKH KLAVLGIVVIFTTYF ISS          16
Pp0chlp   1  --------------------------------MAKADG L YYNPHNPPRRYYFY AIFA         17
Sc0chlp   1  --------------------------------MSRKL H IATRKSKTIVVTV  YSL          18
Sp0chlp   1  ----MLRLRLRSIVIGAAIAGSILLLFNHGSIEGMEDLTEISMLEDY PEAANKDYVGQQEEEE YDQP  19

Hp0ch2p  42  QN WTWSPGTRDLAQVDAKI AE N----SNLHTFGA LR---------HLNRLPAESAT  L  YFPY   2
Hp0chlp  32  GL LFKFSTSWSINTEDKIVSEY N----NFYKLNP FRG-----------ANPYDAAVTA  AKFFPY  15
Ca0chlp  35  SPTSTHKTEY SPKLQ AKLE N---SNWKELG NFQP--------NKKYSLPDEST LQQL  QFPY  16
Pp0chlp  30  V CVLYGPSQ LSSPK DY PLTL---RSLDLKTLRAP---------SOLSPGTVEDNL RQLE HFPY  17
Sc0chlp  29  FHLSNKRLLS FYPSKDDFKQTLLPTTSHSQDINL KQI-------TVNKKKNQLHN LQL AFPY  18
Sp0chlp  67  YS EEEEDPDLEAYLSD ER EELEHSLEELDEENNY LHLRYSFSQLQDFDEKNEAVHM VP D EEEV  19

Hp0ch2p 100  Y-PE E PNQIWQTWKRD LEDDNFI Q R QK MV-E NPDAVYH PD SVIEDR ASLAAN--VPEV  2
Hp0chlp  87  NSA EKSIWONWKVPSTDPDFD KELVNKWKNE---WPTIKYNL TDDEILE RIR KDT-VPEV  15
Ca0chlp  94  E-ES R IWQTWKVGID KSF R LK QQ IE-D NPDAVEY V PKQCDL EQL SQ-VPS A  16
Pp0chlp  88  P-SYE R QHIWQTWKNSPSQ SSFE M DLGE VL-Q SPNYDIF PDDAAWE HHEVER--VPEV  17
Sc0chlp  91  R-SQA R QP WQTWKVGADDKNFSS T QK QSGSYSPDM QYSI SDDSIIPF ENIVAP--VPIV  18
Sp0chlp 137  P-YHAD EKLIWQTSRDP------ED EVMK TRFQR-INHF SEA DR QSKA ISS GDSS SK S  19

Hp0ch2p 166  PAYQ LP KNI KADFFRYL  AARGG TY L DT CLKPIRD A FD RD IHAADNK--------ADLSQI  2
Hp0chlp 153  EA E LPNEI DFARYL FLNGG YAL DTDLQKF TWFDSDRN GF----------------       15
Ca0chlp 160  RAYP PKSILRADFFEYL LFARGG Y L DT GLKR EW NSEM LKRKN---------------   16
Pp0chlp 154  EA HLLP E GNILKADFLRYL LFARGG YAL DT LLKPI SW FNET GGVRN---------------  17
Sc0chlp 158  QA KI PGNILKADFLRYL LFARGG YL DT LLKPI SWP QNKSWLNNIIDLNKPIPYKNSKPSLL  18
Sp0chlp 200  QA A A LR LRKADFFRYL LLA GG YL DTAPLRHLNNQ PREYPKPN-----------------  19

Hp0ch2p 228  DPEARTTPVG WICIEADPDRPDWH W PR SQFCQWTIQAKPGHP LRELII IV ETF---------  2
Hp0chlp 204  ---------W REEDI VE  EH MTPRIQFEQWTFEARARHPILPRLIA IV TFQAKKN-----  15
Ca0chlp 214  -------RSGLVIGIEADPDRPDW A WYAPRIQFCQWTIQ RPGHP LRELIA IF ITL T---------  16
Pp0chlp 208  -------NAGLVIGIEADPDRPDWH WYARRIQFCQWAIQ RRGHPALRELIV VSTTL---------  17
Sc0chlp 228  SSDEISHQR GLVIGIEADPDRPDWS WYAPRIQFCQWTIQAKPGHPILBEIILNITATTLASVQNPGVPV  18
Sp0chlp 251  --------IRL GIEADPDRPDWN WAPR QFCQWTIA ARGHPIIWEL R IL EW ---------  19

Hp0ch2p 289  -------------------Q MP VLRPV GCRDS----GADIWQTGPGIFTDT F Y WI ASD------  2
Hp0chlp 258  -------------------DKLQ YLRDFRCWDR--CASVD WTG W TDTI AHW S PSPTIVDI  15
Ca0chlp 268  -------------------H KEQLRKVLGK E----GQDIM WTGPGIFTDT FY ML LQS-----  16
Pp0chlp 262  -------------------E SRYD MVEGRDR----GSD  WTGPGIFTDT FF Y TW NTT-----  17
Sc0chlp 298  SEMIDPRF EEDYNVNYPHK R DETY SHSELF NRNVD GSDIN WTGPGIF DII F Y ML LRYNSDIL  18
Sp0chlp 304  ------------------LHD SRRLSRNG S-------AE WTGPGI TTAIM YNWWQYGP-----  19

Hp0ch2p 331  ---GR GD GYGV GSLYWRKHGKYKLKKTEINKNNEPLHSED------Q N SLIN RBK GDW WL  2
Hp0chlp 307  DHQ RD AGELYG--------------------------------PETGEGD SW FFAG PAPV DDW Y  15
Ca0chlp 310  ---PE FKNKKK-------------------------W-----AT DW LFIG QDIA DDVLVL  16
Pp0chlp 304  ---GHSGQGIGAGSAYYNALSLEERDALSARPNGEMLKERVPGKYAQQ LWEQF WI RSEK DL SL  17
Sc0chlp 368  LINPN WKMD EEGSESATTPARDVDNDTLSKSTPRFYKKISESLOSSNS PWEFR FLKEIV DDV WL  18
Sp0chlp 341  --------------------------------------------FSVENI DNL EEY GDW WL  19

Hp0ch2p 392  PITSFSPNW MG SSSD EHLFSGSW PKNK--------------------------------------  2
Hp0chlp 348  PRASFREDK-----ENNCG YQYW HF CSW NNGKGEIKPGMEGYEGEDPNEVEELRKNDVSKRDVIP  15
Ca0chlp 344  PITSFSPDW NQMGA DSHKP AYA HFSGSW DGMPEMXO--------------------------  16
Pp0chlp 371  PITSFSPG C SGACDLNH AY FTPEGSW -----------------------------------  17
Sc0chlp 438  PITSFSPDW QMGAQSSDD AN HHFSGSW DADRNAGHK--------------------------  18
Sp0chlp 362  RLT RSPGW GWG SPND P AYA HF GSW D---------------------------------  19

Hp0ch2p     --------------------    100%   2
Hp0chlp 413 GESKDVAPVKRLAKRCAYPYTPY 27.3%   15
Ca0chlp     --------------------    42.3%   16
Pp0chlp     --------------------    40.0%   17
Sc0chlp     --------------------    40.4%   18
Sp0chlp     --------------------    30.8%   19
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